AMENDMENTS TO THE CLAIMS

Following is a listing of all claims in the present application, which listing supersedes all previously presented claims:

Listing of Claims:

1. (*Currently Amended*) A reinforced composite ionic conductive polymer membrane, comprising:

a porous support;

an ion-exchange polymer that impregnates the porous support; and

a reinforcing agent that impregnates the porous support, the reinforcing agent being different from the ion-exchange polymer, and being at least one selected from the group consisting of a moisture retentive material and a catalyst for facilitating oxidation of hydrogen,

wherein the reinforcing agent comprises about 3-90% by weight of the moisture retentive material and about 10-97% by weight of the catalyst, based on the total weight of the reinforcing agent.

2. (*Original*) The reinforced composite ionic conductive polymer membrane as claimed in claim 1, wherein the moisture retentive material comprises at least one selected from the group consisting of SiO_2, TiO_2, ZrO_2, mordenite, tin oxide, and zeolite.

3. (*Original*) The reinforced composite ionic conductive polymer membrane as claimed in claim 1, wherein the catalyst comprises at least one selected from the group consisting platinum (Pt), palladium (Pd), ruthenium (Ru) rhodium (Rh), iridium (Ir), gold (Au), and a Pt/Ru alloy.

4. (*Canceled*)

5. (*Original*) The reinforced composite ionic conductive polymer membrane as claimed in claim 1, wherein the ion-exchange polymer includes at least one selected from the group consisting of a sulfonic acid group, a carboxyl group, a phosphoric acid group and a perchloric acid group as a reactive site and has an equivalent weight of about 600-1200 g/H^+.

6. (*Currently Amended*) The reinforced composite ionic conductive polymer membrane as claimed in claim 1, wherein the porous support comprises at least one polymer membrane that has a porosity of ~~bout~~ **about** 30% or greater.

7. (*Original*) The reinforced composite ionic conductive polymer membrane as claimed in claim 1, wherein the porous support comprises at least one polymer membrane that is selected from the group consisting of polytetrafluoroethylene, vinylidene fluoride-hexafluoropropylene copolymer, polypropylene, polyethylene, and polysulfone.

8. (*Original*) The reinforced composite ionic conductive polymer membrane as claimed in claim 1, wherein at least one functional group selected from the group consisting of a carboxyl group, a sulfonic acid group, a phosphoric acid group, and a perchloric acid group is incorporated into the polymer membrane.

9. (*Previously Presented*) The reinforced composite ionic conductive polymer membrane as claimed in claim 1, which is formed by impregnating or spray-coating the porous support with a slurry of the ion-exchange polymer and the reinforcing agent.

10. (*Currently Amended*) A fuel cell comprising a reinforced composite ionic conductive polymer membrane, the membrane comprising:

a porous support;

an ion-exchange polymer that impregnates the porous support; and

a reinforcing agent that impregnates the porous support, the reinforcing agent being different from the ion-exchange polymer, and being at least one selected from the group consisting of a moisture retentive material and a catalyst for facilitating oxidation of hydrogen,

wherein the reinforcing agent comprises about 3-90% by weight of the moisture retentive material and about 10-97% by weight of the catalyst, based on the total weight of the reinforcing agent.

11. (*Original*) The fuel cell as claimed in claim 10, wherein the moisture retentive material comprises at least one selected from the group consisting of SiO_2, TiO_2, ZrO_2, mordenite, tin oxide, and zeolite.

12. (*Original*) The fuel cell as claimed in claim 10, wherein the catalyst comprises at least one selected from the group consisting platinum (Pt), palladium (Pd), ruthenium (Ru) rhodium (Rh), iridium (Ir), gold (Au), and a Pt/Ru alloy.

13. (*Canceled*)

14. (*Original*) The fuel cell as claimed in claim 10, wherein the ion-exchange polymer includes at least one selected from the group consisting of a sulfonic acid group, a carboxyl group, a phosphoric acid group, and a perchloric acid group as a reactive site and has an equivalent weight of about 600-1200 g/H^+.

15. (*Previously Presented*) The fuel cell as claimed in claim 10, wherein the porous support comprises at least one polymer membrane that has a porosity of about 30% or greater.

16. (*Original*) The fuel cell as claimed in claim 10, wherein the porous support comprises at least one polymer membrane selected from the group consisting of polytetrafluoroethylene, vinylidene fluoride-hexafluoropropylene copolymer, polypropylene, polyethylene, and polysulfone.

17. (*Original*) The fuel cell as claimed in claim 10, wherein at least one functional group selected from the group consisting of a carboxyl group, a sulfonic acid group, a phosphoric acid group, and a perchloric acid group is incorporated into the polymer membrane.

18. (*Previously Presented*) The fuel cell as claimed in claim 10, wherein the reinforced composite ionic conductive polymer membrane is formed by impregnating or spray-coating the porous support with a slurry of the ion-exchange polymer and the reinforcing agent.

19. (*Currently Amended*) A direct methanol fuel cell comprising a reinforced composite ionic conductive polymer membrane, the membrane comprising:

a porous support;

an ion-exchange polymer that impregnates the porous support; and

a reinforcing agent that impregnates the porous support, the reinforcing agent being different from the ion-exchange polymer, and being at least one selected from the group consisting of a moisture retentive material and a catalyst for facilitating oxidation of hydrogen,

wherein the reinforcing agent comprises about 3-90% by weight of the moisture retentive material and about 10-97% by weight of the catalyst, based on the total weight of the reinforcing agent.

20. (*Previously Presented*) The direct methanol fuel cell as claimed in claim 19, wherein the porous support comprises at least one polymer membrane that has a porosity of about 30% or greater and a proton exchange functional group.

21. (*Original*) The direct methanol fuel cell as claimed in claim 19, wherein the porous support comprises at least one polymer membrane selected from the group consisting of polytetrafluoroethylene, vinylidene fluoride-hexafluoropropylene copolymer, polypropylene, polyethylene, and polysulfone.

22. (*Original*) The direct methanol fuel cell as claimed in claim 20, wherein the proton exchange functional group is at least one selected from the group consisting of a carboxyl group, a sulfonic acid group, a phosphoric acid group, and a perchloric acid group.

23. (*Currently Amended*) A method of forming a reinforced composite ionic conductive polymer membrane, the method comprising:

providing a porous support;

forming a mixture of an ion-exchange polymer and a reinforcing agent, the reinforcing agent being different from the ion-exchange polymer, and being at least one selected from the group consisting of a moisture retentive material and a catalyst for facilitating oxidation of hydrogen, and

impregnating the porous support with the mixture,

wherein the reinforcing agent comprises about 3-90% by weight of the moisture retentive material and about 10-97% by weight of the catalyst, based on the total weight of the reinforcing agent.

24. (New) The reinforced composite ionic conductive polymer membrane as

claimed in claim 1, wherein the ionic conductive polymer membrane has increased ionic conductivity, when compared to an identical ionic conductive polymer membrane without a reinforcing agent.

25. (New) The fuel cell as claimed in claim 10, wherein the fuel cell has improved cell efficiency when compared to a fuel cell employing an identical ionic conductive polymer membrane without a reinforcing agent.